UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,527	04/20/2001	Dietrich Charisius	30013630-0013	2145

23485　　7590　　06/25/2004	EXAMINER	
JINAN GLASGOW	SHRADER, LAWRENCE J	
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RALEIGH, NC 276118539	ART UNIT	PAPER NUMBER
	2124	10

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/839,527	CHARISIUS ET AL.
	Examiner	Art Unit
	Lawrence Shrader	2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _4/20/2001;7/16/2001;8/13/2001; 6/18/2002_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-108_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-108_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _#4,#5,#6_.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Information Disclosure Statement

1.   The information disclosure statements (IDS) submitted on 7/16/2001, 6/18/2002, and

8/13/2001 are acknowledged and have been considered, except for the missing reference noted

below in paragraph 2.

2.   The information disclosure statement filed 8/13/2001 fails to comply with 37 CFR

1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that

portion which caused it to be listed; and all other information or that portion which caused it to

be listed. It has been placed in the application file, but the information referred to therein has not

been considered for "Object-Oriented Software Engineering, A Use Case Driven Approach,"

1996, Jacobson. This reference is missing from the application.

Specification

3.   It is requested that the applicant updates the status of the copending applications

indicated on pages 1 and 2 of the specification.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1 – 3; 6 – 8; 11 – 14; 17 – 20; 23 – 26; 29 – 31; 34 – 37; 40 – 42; 45 – 47; 50 – 53; 56 – 59; 62 – 65; 68 – 70; 73 – 76; 79 – 82; 85 – 88; 91 – 94; 97 – 99; 102 – 105; and 108 are rejected under 35 U.S.C. 102(e) as being anticipated by Pazel, U.S. Patent 5,410,648 (Reissue 36,422).

In regard to claim 1:

"displaying a graphical representation of the source code, wherein the graphical representation has portions that correspond to the lines;

See Pazel Figures 6 and 7 with the corresponding text.

"initiating an automated process that processes each of the lines; and

while the automated process processes each of the lines, displaying the portion of the graphical representation that corresponds to the line in a visually distinctive manner such that it visually appears that progression of the automated process is animated."

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, inherently giving an animated appearance (column 6, lines 26 – 39).

In regard to claim 2, incorporating the rejection of claim 1:

> *"...further comprising the step of compiling the line before displaying the portion of the graphical representation that corresponds to the line."*

The debug program of Pazel is capable of disassembling executable code that has been previously compiled (column 3, lines 60 – 66).

In regard to claim 3, incorporating the rejection of claim 1:

> *"...wherein while the automated process processes each of the lines, the method further comprises the step of displaying the line of source code in a visually distinctive manner."*

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, giving an animated appearance (column 6, lines 26 – 39).

Claims 40 – 42 (computer readable medium) are rejected for the same corresponding reasons put forth in the rejection of claims 1 – 3 (corresponding methods).

Claim 108 (system) is rejected for the same corresponding reasons put forth in the rejection of claim 1 (corresponding method).

In regard to claim 6:

> *"...displaying a graphical representation of the source code, wherein the graphical representation has portions that correspond to the lines; and*

for each of the lines, displaying the portion of the graphical representation that corresponds to the line in a visually distinctive manner such that it appears that progression through the code is animated."

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, inherently giving an animated appearance (column 6, lines 26 – 39).

In regard to claim 7, incorporating the rejection of claim 6:

"...further comprising the step of compiling the line before displaying the portion of the graphical representation that corresponds to the line."

The debug program of Pazel is capable of disassembling executable code that has been previously compiled (column 3, lines 60 – 66).

In regard to claim 8, incorporating the rejection of claim 6:

"...wherein for each of the lines, the method further comprises the step of displaying the line of source code in a visually distinctive manner."

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, giving an animated appearance (column 6, lines 26 – 39).

Claims 45 – 47 (computer readable medium) are rejected for the same corresponding reasons put forth in the rejection of claims 6 – 8 (corresponding methods).

In regard to claim 11:

"...displaying a graphical representation of the plurality of lines such that at least one of the lines is not represented in the graphical representation;

initiating an automated process on each of the lines of the source code;"

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, inherently giving an animated appearance (column 6, lines 26 – 39). Figures 3 and 6 indicate that at least one of the lines is not represented in the graphical representation.

> *"receiving an indication to suspend the automated process when the automated process encounters one of the lines that is represented in the graphical representation; and*
>
> *while the automated process is being performed on each of the lines of source code, determining whether the line is represented in the graphical representation; and*
>
> *when it is determined that the line is represented in the graphical representation, suspending the automated process."*

Pazel discloses a debug action in Figure 3. When it is determined that a subroutine is highlighted, the automated process is suspended for the current window. When it is determined that the code for the subroutine is not in the present graphical presentation window, the new window is automatically presented with the proper code, and then the user return to manually stepping through the code (column 5, lines 12 – 55).

In regard to claim 12, incorporating the rejection of claim 11:

> *"...wherein while the automated process is being performed on each of the lines of source code, the method further comprises the step of displaying the portion of the graphical representation that corresponds to the line in a visually distinctive manner such that it visually appears that progression of the automated process is animated."*

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, inherently giving an animated appearance (column 6, lines 26 – 39).

In regard to claim 13, incorporating the rejection of claim 12:

> *"...wherein while the automated process is being performed on each of the lines of source code, the method further comprises the step of displaying the line of source code in a visually distinctive manner."*

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, giving an animated appearance (column 6, lines 26 – 39).

In regard to claim 14, incorporating the rejection of claim 11:

> *"...further comprising the step of compiling the line before determining whether the line is represented in the graphical representation."*

The debug program of Pazel is capable of disassembling executable code that has been previously compiled (column 3, lines 60 – 66).

Claims 50 – 53 (computer readable medium) are rejected for the same corresponding reasons put forth in the rejection of claims 11 – 14 (corresponding methods).

Claims 79 - 82 (data processing system) are rejected for the same corresponding reasons put forth in the rejection of claims 11 – 14 (corresponding methods).

In regard to claim 17:

> *"...displaying a graphical representation of the source code;*
>
> *initiating an automated process to be performed on each of the lines of the source*

code;

> *receiving an indication to suspend the automated process when the automated process encounters a selected one of the lines; and*

> *while the automated process is being performed on each of the lines of source code, determining whether the line is the selected line; and*

> *when it is determined that the line is the selected line, suspending the automated process."*

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, inherently giving an animated appearance (column 6, lines 26 – 39). Figures 3 and 6 indicate that at least one of the lines is not represented in the graphical representation. Pazel discloses a debug action in Figure 3. When it is determined that a subroutine is highlighted, the automated process is suspended for the current window. When it is determined that the code for the subroutine is not in the present graphical presentation window, the new window is automatically presented with the proper code, and then the user return to manually stepping through the code (column 5, lines 12 – 55).

In regard to claim 18, incorporating the rejection of claim 17:

> *"...wherein while the automated process is being performed on each of the lines of source code, the method further comprises the step of displaying the portion of the graphical representation that corresponds to the line in a visually distinctive manner such that it visually appears that progression of the automated process is animated."*

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, inherently giving an animated appearance (column 6, lines 26 – 39).

In regard to claim 19, incorporating the rejection of claim 18:

> *"...wherein while the automated process is being performed on each of the lines of source code, the method further comprises the step of displaying the line of source code in a visually distinctive manner."*

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, giving an animated appearance (column 6, lines 26 – 39).

In regard to claim 20, incorporating the rejection of claim 17:

> *"...further comprising the step of compiling the line before determining whether the line is the selected line."*

The debug program of Pazel is capable of disassembling executable code that has been previously compiled (column 3, lines 60 – 66).

Claims 56 – 59 (computer readable medium) are rejected for the same corresponding reasons put forth in the rejection of claims 17 – 20 (corresponding methods).

Claims 85 - 88 (data processing system) are rejected for the same corresponding reasons put forth in the rejection of claims 17 – 20 (corresponding methods).

In regard to claim 23:

> *"displaying a graphical representation of the source code;*
>
> *receiving an indication of a first of the plurality of lines of the source code;*

selecting a second of the plurality of lines of the source code;

determining whether the second line is the same as the first line; and

when it is determined that the second line is not the same as the first line, displaying the graphical representation of the second line in a visually distinctive manner."

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, inherently giving an animated appearance (column 6, lines 26 – 39).

In regard to claim 24, incorporating the rejection of claim 23:

"...wherein when it is determined that the second line is not the same as the first line, the method further comprises the step of displaying the second line of the source code in a visually distinctive manner."

When the lines are scrolled, the highlight moves from one line to the next to distinctively provide a visual distinction (column 6, lines 26 – 39).

In regard to claim 25, incorporating the rejection of claim 23:

"...wherein when it is determined that the second line is not the same as the first line, the method further comprises the steps of:

selecting a third of the plurality of lines of the source code;

determining whether the third line is the same as the first line; and

when it is determined that the third line is not the same as the first line, displaying the graphical representation of the third line in a visually distinctive manner."

When the lines are scrolled, the highlight moves from one line to the next to distinctively provide a visual distinction (column 6, lines 26 – 39).

In regard to claim 26, incorporating the rejection of claim 25:

"...wherein when it is determined that the third line is not the same as the first line, the method further comprises the step of displaying the third line of the source code in a visually distinctive manner."

When the lines are scrolled, the highlight moves from one line to the next to distinctively provide a visual distinction (column 6, lines 26 – 39).

Claims 62 – 65 (computer readable medium) are rejected for the same corresponding reasons put forth in the rejection of claims 23 – 26 (corresponding methods).

Claims 91 - 94 (data processing system) are rejected for the same corresponding reasons put forth in the rejection of claims 23 – 26 (corresponding methods).

In regard to claim 29:

"...displaying a graphical representation of the plurality of lines such that at least one of the lines is not represented in the graphical representation;

initiating an automated process on each of the lines of the source code;"

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, inherently giving an animated appearance (column 6, lines 26 – 39). Figures 3 and 6 indicate that at least one of the lines is not represented in the graphical representation.

"while the automated process is being performed on each of the lines of source code, compiling the line;

determining whether the compiled line produces an error; and

when it is determined that the compiled line produces the error, suspending the automated process."

Pazel discloses a debugger system that operates on compiled code, determines if an error

occurs and then suspends the process (checking for breakpoints or errors) for the debugging to

determine where the crash occurs (column 3, line 60 to column 4, line 12).

In regard to claim 30, incorporating the rejection of claim 29:

"...wherein while the automated process is being performed on each of the lines of source code, the method further comprises the step of displaying the portion of the graphical representation that corresponds to the line in a visually distinctive manner such that it visually appears that progression of the automated process is animated."

Pazel discloses an automated process that processes the lines and displays them in a

visually distinctive way by highlighting the currently active line after scrolling the lines,

inherently giving an animated appearance (column 6, lines 26 – 39).

In regard to claim 31, incorporating the rejection of claim 30:

"...wherein while the automated process is being performed on each of the lines of source code, the method further comprises the step of displaying the line of source code in a visually distinctive manner."

Pazel discloses an automated process that processes the lines and displays them in a

visually distinctive way by highlighting the currently active line after scrolling the lines, giving

an animated appearance (column 6, lines 26 – 39).

Claims 68 – 70 (computer readable medium) are rejected for the same corresponding

reasons put forth in the rejection of claims 29 – 31 (corresponding methods).

Claims **97 - 99** (data processing system) are rejected for the same corresponding reasons

put forth in the rejection of claims 29 – 31 (corresponding methods).

In regard to claim 34:

"...displaying a graphical representation of the source code;

selecting one of the plurality of lines of the source code;

compiling the selected line;

determining whether the compiled line produces an error; and

when it is determined that the compiled line does not produce an error, displaying the graphical representation of the selected line in a visually distinctive manner."

Pazel discloses a debugger system that operates on compiled code, determines if an error

occurs and then suspends the process (checking for breakpoints or errors) for the debugging to

determine where the crash occurs (column 3, line 60 to column 4, line 12).

In regard to claim 35, incorporating the rejection of claim 34:

"...wherein when it is determined that the compiled line does not produce an error, the method further comprises the step of displaying the selected line of source code in a visually distinctive manner."

Pazel discloses an automated process that processes the lines and displays them in a

visually distinctive way by highlighting the currently active line after scrolling the lines, giving

an animated appearance (column 6, lines 26 – 39).

In regard to claim 36, incorporating the rejection of claim 34:

> *"...wherein when it is determined that the compiled line does not produce an error, the method further comprises the steps of:*
>
> *selecting a second of the plurality of lines of the source code;*
>
> *compiling the second line;*
>
> *determining whether the compiled second line produces an error; and*
>
> *when it is determined that the compiled second line does not produce an error, displaying the graphical representation of the second line in a visually distinctive manner."*

Pazel discloses an automated process that processes the lines and displays them in a visually distinctive way by highlighting the currently active line after scrolling the lines, line by line successively, giving an animated appearance (column 6, lines 26 – 39).

In regard to claim 37, incorporating the rejection of claim 36:

> *"...wherein when it is determined that the compiled second line does not produce an error, the method further comprises the step of displaying the second line of source code in a visually distinctive manner."*

When the lines are scrolled, the highlight moves from one line to the next to distinctively provide a visual distinction (column 6, lines 26 – 39).

Claims 73 – 76 (computer readable medium) are rejected for the same corresponding reasons put forth in the rejection of claims 34 – 37 (corresponding methods).

Claims 102 - 105 (data processing system) are rejected for the same corresponding reasons put forth in the rejection of claims 34 – 37 (corresponding methods).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.   Claims 4, 5; 9, 10; 15, 16; 21, 22; 27, 28; 32, 33; 38, 39; 43, 44; 48, 49; 54, 55; 60, 61;

66, 67; 71, 72; 77, 78; 83, 84; 89, 90; 95, 96; 100, 101; 106, and 107 are rejected under 35 U.S.C.

103(a) as being unpatentable over Pazel, U.S. Patent 5,410,648 (Reissue 36,422) in view of

Graham, U.S. Patent 5,918,053.

In regard to claim 4, incorporating the rejection of claim 1:

> *"...wherein the graphical representation comprises a class diagram."*

Pazel discloses a flow graph, but does not disclose a class diagram. However, Graham

discloses class diagrams derived from underlying code (e.g., Figures 15 – 17). Therefore, it

would have been obvious to one skilled in the art at the time the invention was made to combine

the flow graph capability in the Pazel invention with the well known diagramming of classes as

taught by Graham, because the combination logically follows if one is debugging an object-

oriented application with the display capability of program flow in Pazel.

In regard to claim 5, incorporating the rejection of claim 1:

"...wherein the graphical representation comprises a sequence diagram."

Pazel discloses a flow graph, but does not disclose a class diagram. However, Graham

discloses sequence diagrams (e.g., Figures 7 – 14). Therefore, it would have been obvious to one

skilled in the art at the time the invention was made to combine the flow graph capability in the

Pazel invention with the well known diagramming of steps in a sequence as taught by Graham,

because the combination logically follows if one is debugging an object-oriented application

with the display capability of program flow in Pazel adding an analytical feature that does not

require the code to be completely executed, as taught by Graham at column 7, lines 15 – 17, to

determine object interaction.

In regard to claim 9, incorporating the rejection of claim 6:

"...wherein the graphical representation comprises a class diagram."

Rejected for the same reasons put forth in the rejection of claim 4 above.

In regard to claim 10, incorporating the rejection of claim 6:

"...wherein the graphical representation comprises a sequence diagram."

Rejected for the same reasons put forth in the rejection of claim 5 above.

In regard to claim 15, incorporating the rejection of claim 11:

"...wherein the graphical representation comprises a class diagram."

Rejected for the same reasons put forth in the rejection of claim 4 above.

In regard to claim 16, incorporating the rejection of claim 11:

"...wherein the graphical representation comprises a sequence diagram."

Rejected for the same reasons put forth in the rejection of claim 5 above.

In regard to claim 21, incorporating the rejection of claim 17:

> *"...wherein the graphical representation comprises a class diagram."*

Rejected for the same reasons put forth in the rejection of claim 4 above.

In regard to claim 22, incorporating the rejection of claim 17:

> *"...wherein the graphical representation comprises a sequence diagram."*

Rejected for the same reasons put forth in the rejection of claim 5 above.

In regard to claim 27, incorporating the rejection of claim 23:

> *"...wherein the graphical representation comprises a class diagram."*

Rejected for the same reasons put forth in the rejection of claim 4 above.

In regard to claim 28, incorporating the rejection of claim 23:

> *"...wherein the graphical representation comprises a sequence diagram."*

Rejected for the same reasons put forth in the rejection of claim 5 above.

In regard to claim 32, incorporating the rejection of claim 29:

> *"...wherein the graphical representation comprises a class diagram."*

Rejected for the same reasons put forth in the rejection of claim 4 above.

In regard to claim 33, incorporating the rejection of claim 29:

"...wherein the graphical representation comprises a sequence diagram."

Rejected for the same reasons put forth in the rejection of claim 5 above.

In regard to claim 38, incorporating the rejection of claim 34:

"...wherein the graphical representation comprises a class diagram."

Rejected for the same reasons put forth in the rejection of claim 4 above.

In regard to claim 39, incorporating the rejection of claim 34:

"...wherein the graphical representation comprises a sequence diagram."

Rejected for the same reasons put forth in the rejection of claim 5 above.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Lawrence Shrader whose telephone number is (703) 305-8046.

The examiner can normally be reached on M-F 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence Shrader
Examiner
Art Unit 2124

16 June 2004

ANIL KHATRI
PRIMARY EXAMINER